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LCD TV

SERVICE MANUAL

CHASSIS : ML-012B

MODEL : RU-20LA61

CAUTION

BEFORE SERVICING THE CHASSIS,
READ THE SAFETY PRECAUTIONS IN THIS MANUAL.



SAFETY PRECAUTIONS

IMPORTANT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These parts are identified by Δ in the Schematic Diagram and Replacement Parts List.

It is essential that these special safety parts should be replaced with the same components as recommended in this manual to prevent X-RADIATION, Shock, Fire, or other Hazards.

Do not modify the original design without permission of manufacturer.

General Guidance

An **Isolation Transformer should always be used** during the servicing of a receiver whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks.

It will also protect the receiver and its components from being damaged by accidental shorts of the circuitry that may be inadvertently introduced during the service operation.

If any fuse (or Fusible Resistor) in this TV receiver is blown, replace it with the specified.

When replacing a high wattage resistor (Oxide Metal Film Resistor, over 1W), keep the resistor 10mm away from PCB.

Keep wires away from high voltage or high temperature parts.

Due to high vacuum and large surface area of picture tube, extreme care should be used in **handling the Picture Tube**. Do not lift the Picture tube by its Neck.

Before returning the receiver to the customer,

always perform an **AC leakage current check** on the exposed metallic parts of the cabinet, such as antennas, terminals, etc., to be sure the set is safe to operate without damage of electrical shock.

Leakage Current Cold Check(Antenna Cold Check)

With the instrument AC plug removed from AC source, connect an electrical jumper across the two AC plug prongs. Place the AC switch in the on position, connect one lead of ohm-meter to the AC plug prongs tied together and touch other ohm-meter lead in turn to each exposed metallic parts such as antenna terminals, phone jacks, etc.

If the exposed metallic part has a return path to the chassis, the measured resistance should be between $1M\Omega$ and $5.2M\Omega$.

When the exposed metal has no return path to the chassis the reading must be infinite.

An other abnormality exists that must be corrected before the receiver is returned to the customer.

Leakage Current Hot Check (See below Figure)

Plug the AC cord directly into the AC outlet.

Do not use a line Isolation Transformer during this check.

Connect 1.5K/10watt resistor in parallel with a 0.15uF capacitor between a known good earth ground (Water Pipe, Conduit, etc.) and the exposed metallic parts.

Measure the AC voltage across the resistor using AC voltmeter with 1000 ohms/volt or more sensitivity.

Reverse plug the AC cord into the AC outlet and repeat AC voltage measurements for each exposed metallic part. Any voltage measured must not exceed 0.75 volt RMS which corresponds to 0.5mA.

In case any measurement is out of the limits specified, there is possibility of shock hazard and the set must be checked and repaired before it is returned to the customer.

Leakage Current Hot Check circuit

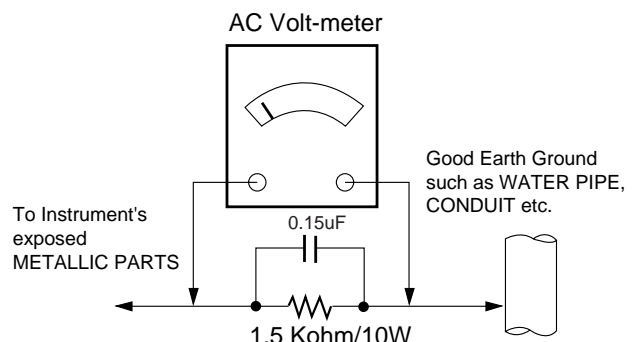


TABLE OF CONTENTS

SPECIFICATIONS.....	4
DESCRIPTION OF CONTROLS	5
ADJUSTMENT INSTRUCTIONS	9
PRINTED CIRCUIT BOARD	10
BLOCK DIAGRAM.....	13
EXPLODED VIEW.....	14
EXPLODED VIEW PARTS LIST	15
REPLACEMENT PARTS LIST	16
SCHEMATIC DIAGRAM.....	

SPECIFICATIONS

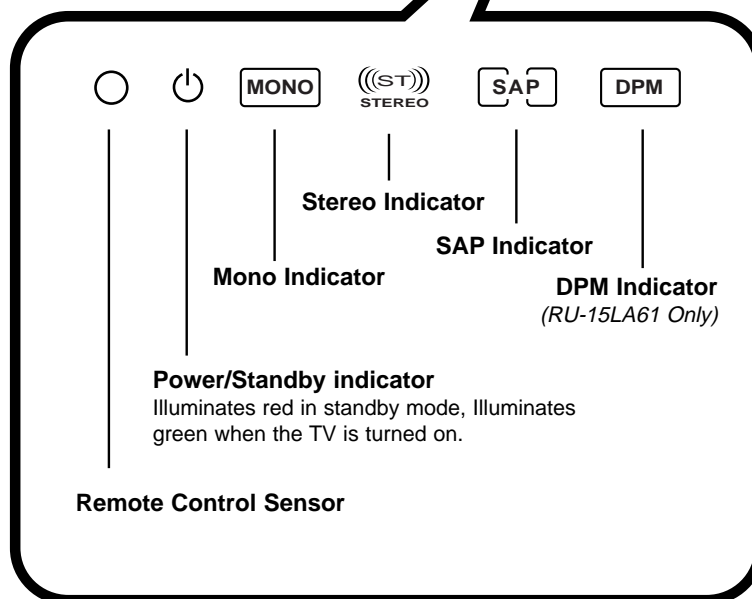
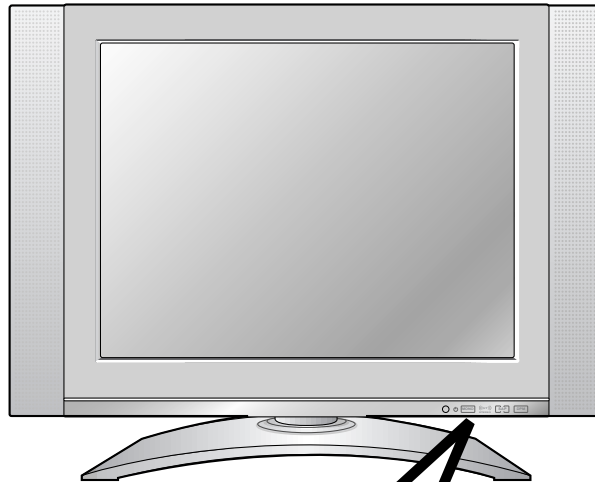
Model	RU-15LA61	RU-20LA61
Horizontal size (Inches)	18.3	22.8
Height (Inches)	14.8	18.3
Thickness (Inches)	6.7	8
Weight (pounds)	13.9	21.6
Power requirements	DC 12V/4.5A	DC 15V/4.5A
Television system	NTSC	
Television channels	VHF : 2 ~ 13, UHF : 14 ~ 69 Cable : 01 ~ 125	
Television Screen	LCD Panel	
External antenna impedance	75 Ω	
Power consumption	50 W	70 W
Audio output	3 W + 3 W	5 W + 5 W
Adapter (DC power)	In: AC 100-240V ~ 1.5A-0.6A 50/60Hz Out: DC 12V, 5A	In: AC 100-240V ~ 1.6A-0.7A 50/60Hz Out: DC 15V, 4.5A
* CAUTION :	For use only with Model No. SAD6012SE AC Adapter, man- ufactured by H & E co., Ltd.	For use only with Model No. SAD7015SE AC Adapter, manufactured by H & E co., Ltd.

Power supply cordset : Standard North America three wire earth-grounding with flexible cord SJT type or higher type.

* CAUTION : If replacement becomes necessary, replace with an exact duplicate.
Contact any LG authorized service center.

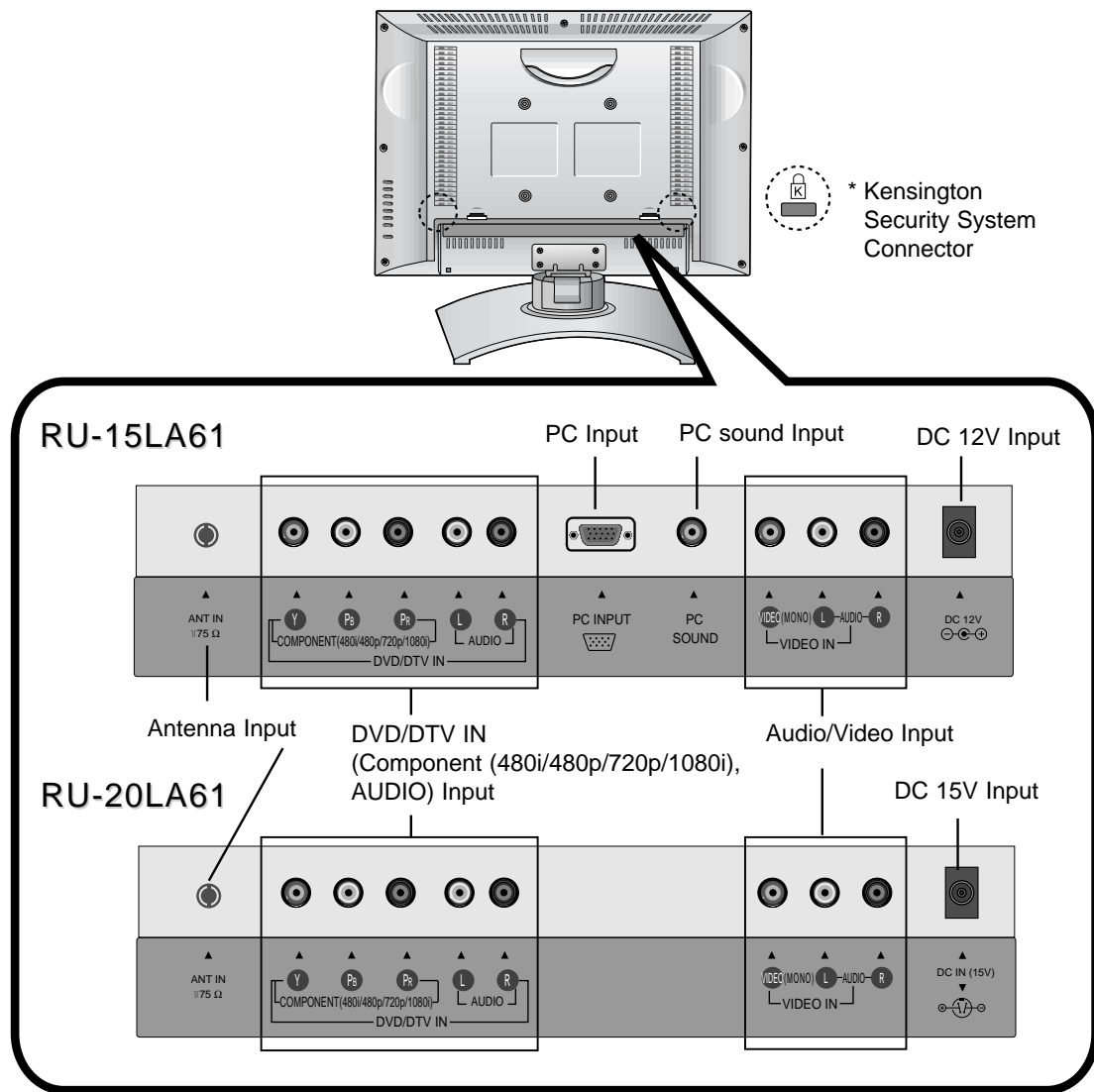
DESCRIPTION OF CONTROLS

Front of the TV



DESCRIPTION OF CONTROLS

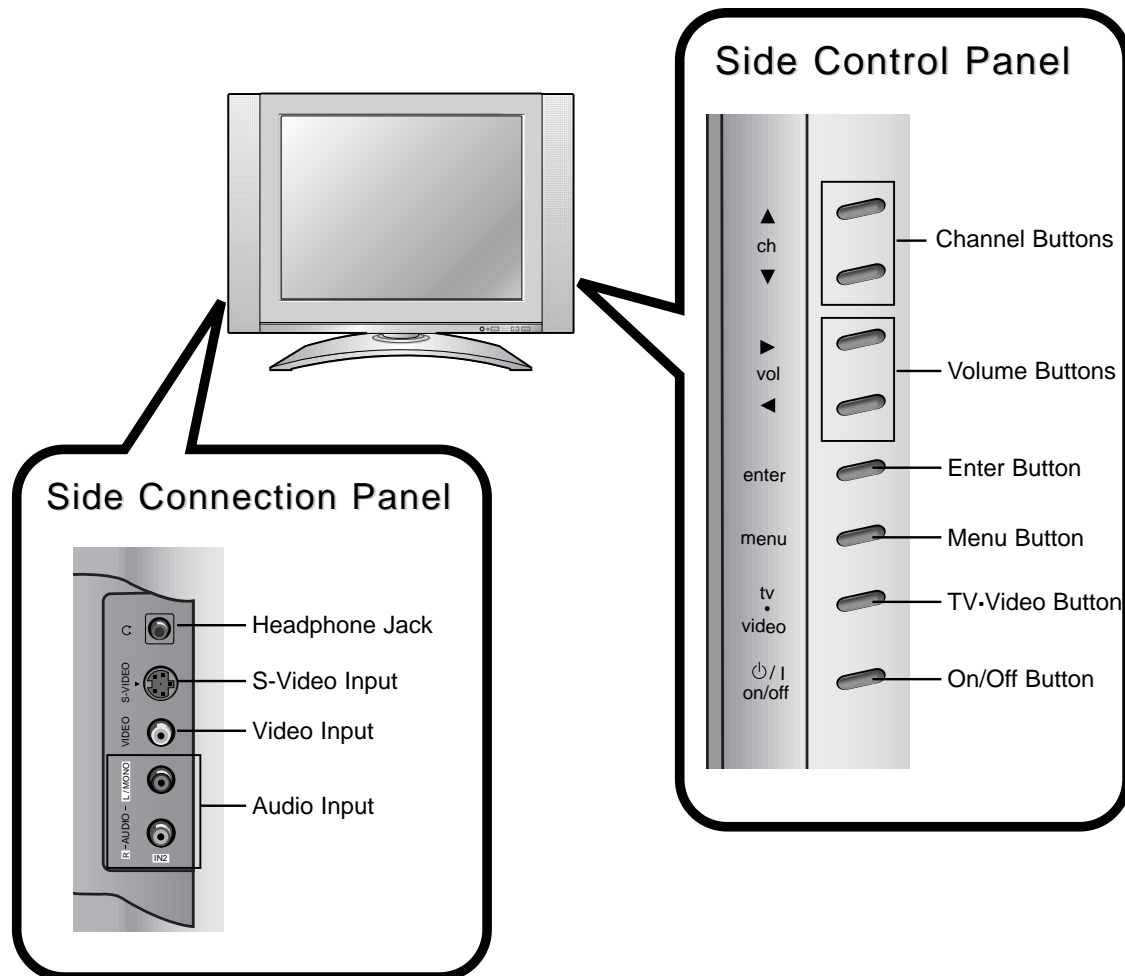
Back of the TV



- This manual mainly explains the features for the RU-15LA61

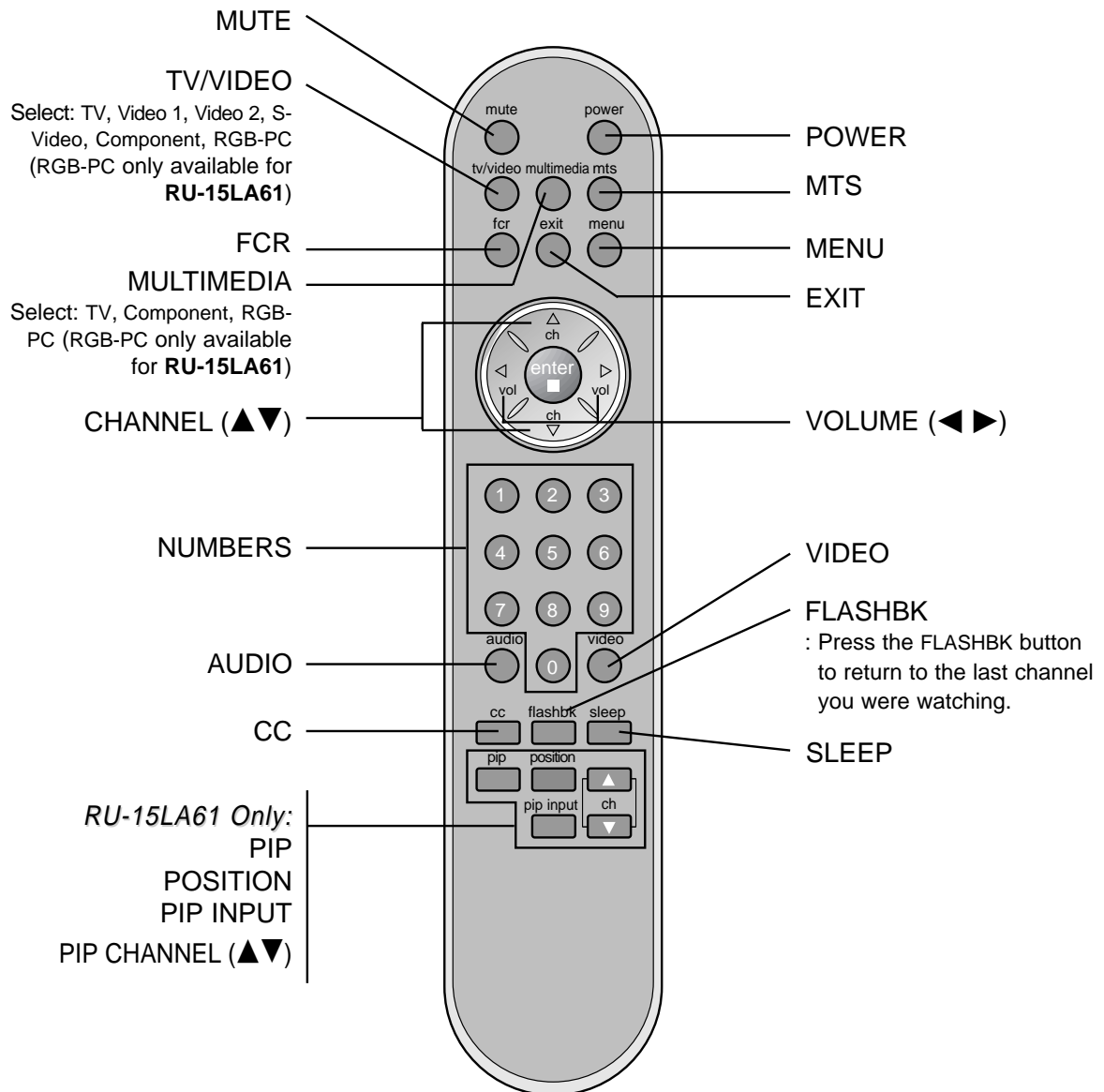
DESCRIPTION OF CONTROLS

Side of the TV



DESCRIPTION OF CONTROLS

Remote Control Buttons



ADJUSTMENT INSTRUCTIONS

1. Application Object

This instruction is for the application to the ML012B/C.

2. Notes

- (1) This set uses an adapter, so connect the adapter to the TV correctly before adjustment.
- (2) These adjustments must be performed in the correct sequence.
- (3) These adjustments must be performed at $25\pm 5^{\circ}\text{C}$ of temperature and $65\pm 10\%$ of relative humidity.
- (4) The input voltage of the receiver must be kept at 100~220V, 50/60Hz during adjustment.
- (5) The set must be operated for 30 minutes before adjustment. Heat Run must be performed with the full white signal or a TV noise signal.

3. Component Mode Adjustment

: Component Model only

3-1. Required Test Equipment

- (1) MSPG-925LTH, Pattern Generator for Digital TV 1080i mode Color-Bar signal output, Digital TV Set-Top Box
- (2) Remote controller for adjustment (SVC Remocon)

3-2. Preparation for Adjustment

- (1) Perform Heat Run for at least 30 minutes with a white pattern.
- (2) Connect the signal from a pattern generator to the LCD TV's component Input Jack.

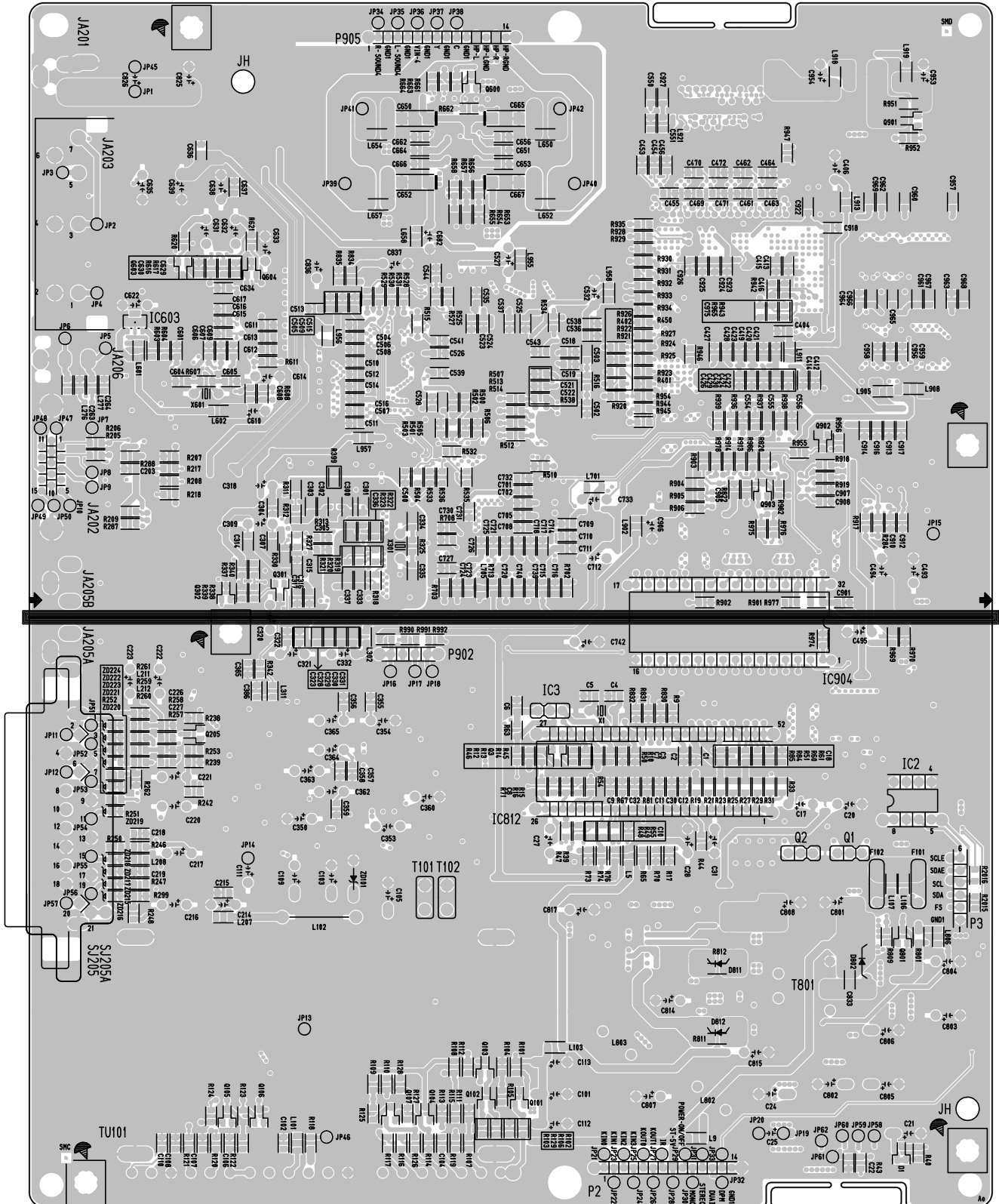
3-3. YPbPr ADJUST Adjustment

- (1) Receive the Color Bar Pattern signal of Digital TV 1080i Mode from Pattern Generator.
- (2) Select the YPbPr ADJUST of the adjustment mode(SVC Menu Mode) by pressing the IN-START Key(or SVC Key) on the remote controller for adjustment(SVC).
- (3) Start the adjustment by pressing the ◀, ▶ Key(Volume Key) in the YPbPr ADJUST of the adjustment mode.
- (4) When adjustment is completed, "OK" will replace "To Set" shown in the top/center of the OSD.

MAIN(TOP)

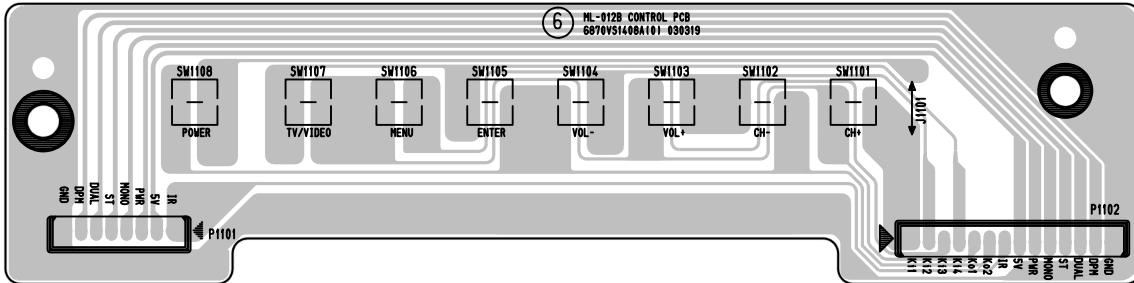


MAIN(BOTTOM)

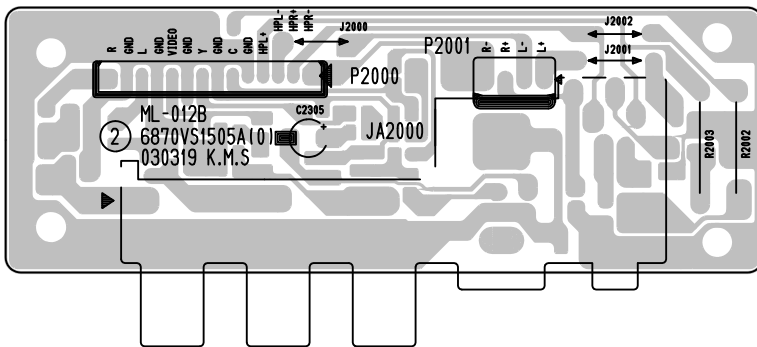


PRINTED CIRCUIT BOARD

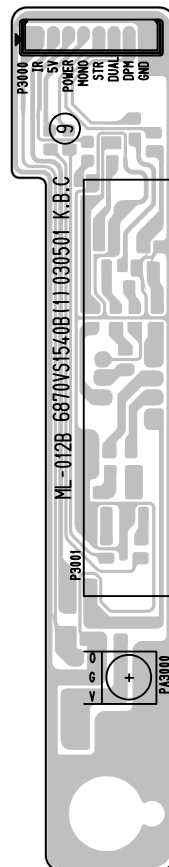
CONTROL



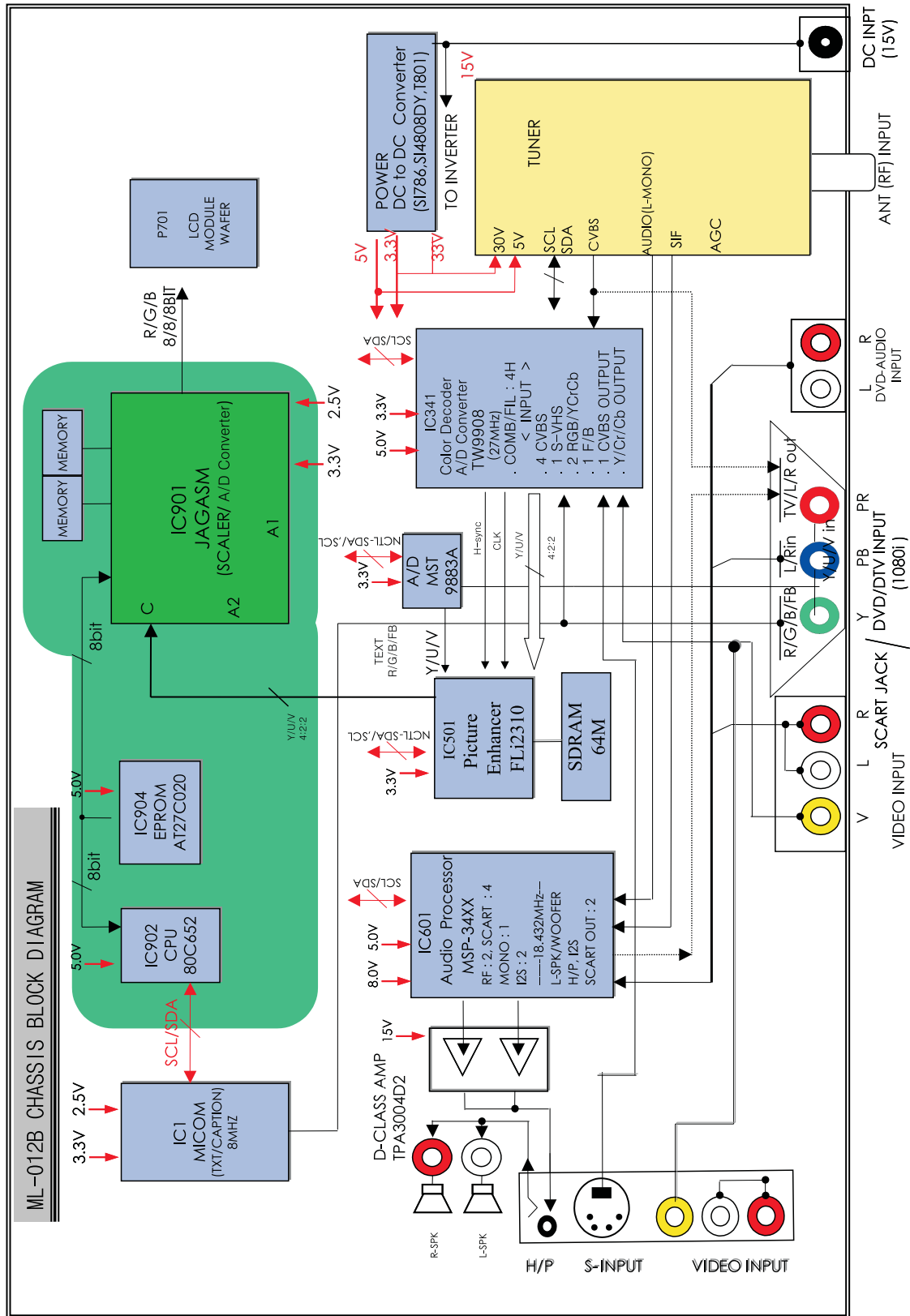
SIDE A/V



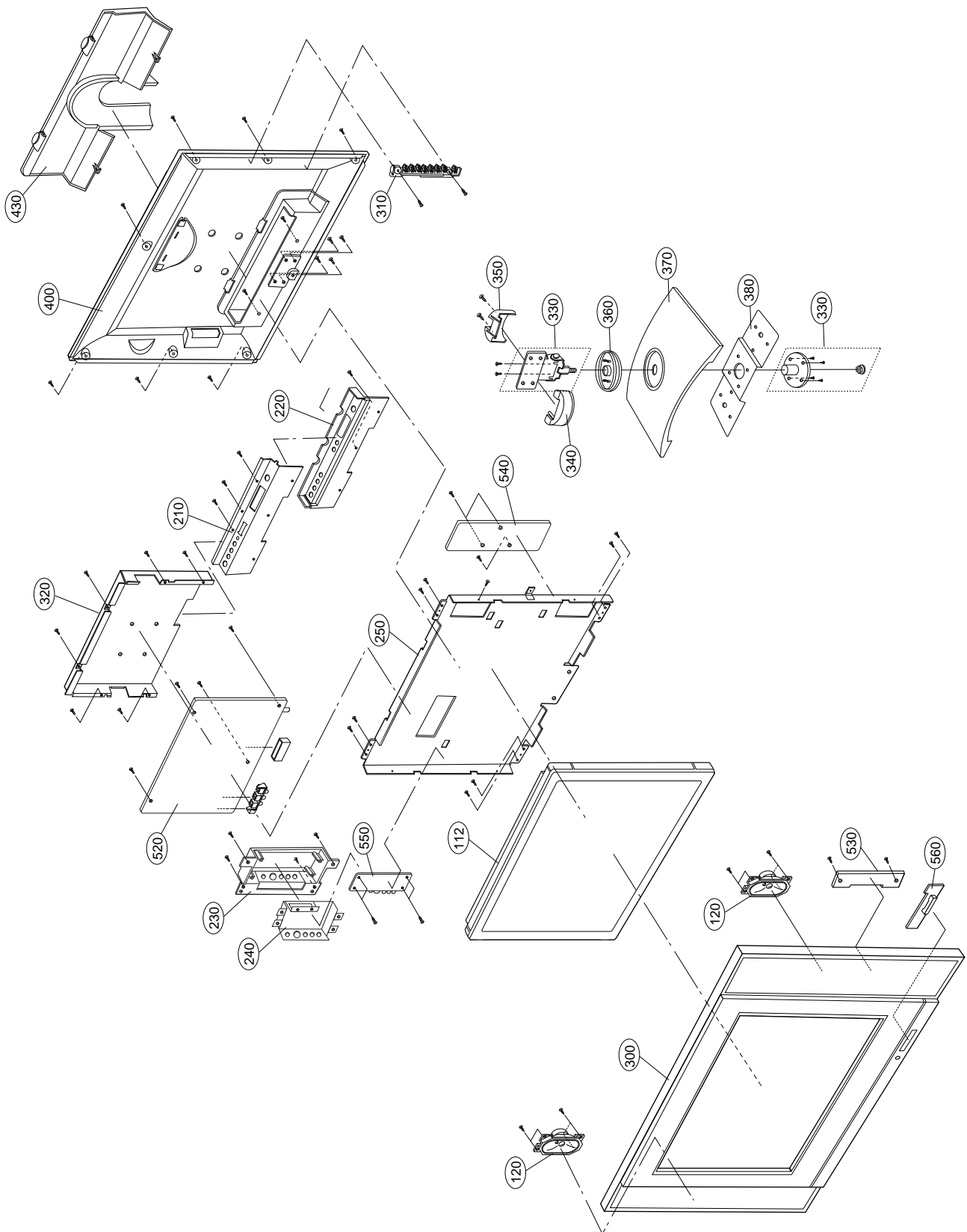
LED ASSY



BLOCK DIAGRAM



EXPLODED VIEW



EXPLODED VIEW PARTS LIST

No.	PART NO.	DESCRIPTION
112	6304VT2011B	LCD MODULE,LC201V02-A3(IPS) LG PHILPS TFT COLOR 20.1
120	6400GKTX01A	SPEAKER,FULLRANGE F1527C-6428 (GENERAL) 8OHM 7/12W
210	4950V00141A	METAL,SHIELD NON REAR AV, 20LA60
220	4810V00764H	BRACKET,REAR AV RU-20LA61 ML012B HIPS 40AF
230	4810V00765F	BRACKET,SIDE AV RU-15LA61 ML012C HIPS 40AF
240	4950V00142A	METAL,SHIELD NON SIDE AV, 20LA60/15LA60
250	4950V00132A	METAL,MAIN FRAME NON 20LA60
300	3091V00491E	CABINET ASSEMBLY,RU-20LA61 STEREO ML012B
	3091V00491L	CABINET ASSEMBLY,RU-20LA61.AAPLKZ
310	5020V00776C	BUTTON,CONTROL RU-20LA61 ABS, HF-380 8KEY
320	4950V00140B	METAL,SHIELD SBHG 20LA60
330	4950V00157C	METAL,HINGE ASSY SPCC(CR) 20LA60
340	4810V00767C	BRACKET,STAND RU-20LA61 NON ABS, HF-380 HINGE FRONT
350	4810V00768C	BRACKET,STAND RU-20LA61 NON ABS, HF-380 HINGE REAR
360	4810V00766C	BRACKET,STAND RU-20LA61 NON ABS, HF-380 DECO
370	4810V00769C	BRACKET,STAND RU-20LA61 NON ABS, HF-380 BASE
380	4950V00133A	METAL,STAND NON BASE 20LA60
400	3809V00339G	BACK COVER ASSEMBLY,RU-20LA61 NON
430	3550V00297C	COVER,REAR AV RU-20LA61 ABS, HF-380 .
520	6871VMMQ09A	PCB ASSEMBLY,MAIN ML012B RU-20LA60
530	6871VSMV38A	PCB ASSEMBLY,SUB CONT ML012B RZ-15/20LA60 CONTROL ASSY
540	6633VA0003Q	INVERTER ASSEMBLY,15V NON K.S. LC201V02-A3
550	6871VSMV40J	PCB ASSEMBLY,SUB ML012B SIDE A/V RU-20LA61
560	6871VSMV43C	PCB ASSEMBLY,SUB ML012B 20INDEX LED ASSY(RU-20LA60)

REPLACEMENT PARTS LIST

For Capacitor & Resistors, the characters at 2nd and 3rd digit in the P/No. means as follows;

CC, CX, CK, CN : Ceramic
CQ : Polyester
CE : Electrolytic

RD : Carbon Film
RS : Metal Oxide Film
RN : Metal Film
RF : Fusible

RUN DATE : 2003.7.4

LOCA. NO	PART NO	DESCRIPTION
IC		
IC1	0IZZVC0067A	M37136EFSP DIP 52P ST ML012B
IC2	0IAL241610B	AT24C16A10PI2.7 8PIN DIP ST EEPROM NON
IC3	0IFA752700A	KA75270Z 3 TP RESET IC MC007
IC350	0ISO204000A	CXA2040AQ 32P,QFP BK IIC BUS VIDEO S/W
IC351	0IMCRFA010A	KA7809R 2P DPAK, R/TP REGULATOR IC
IC501	0IMCRGN001B	FLI2310BC 208P PQFP TRAY DIGITAL VIDEO
IC600	0IMCRTI022D	TPA3004D2 48P PQFP TRAY 9WSTEREO AUDIO
IC601	0IMCRMN007A	MSP3421G QA B8 V3 80P VIRTUAL DOLBY
IC603	0IKE704200J	KIA7042AF SOT89 TP 4.2V
IC604	0IMCRFA009A	KA78M08RTM 2P DPAK, R/TP REGULATOR IC
IC605	0IMCRFA008A	KA78M05RTM 2P DPAK, R/TP REGULATOR IC
IC606	0IMCRKE010A	KIA7812AF 2P DPAK R/TP 12V
IC701	0IMCRM3001A	MST9883A 80P LQFP TRAY A/D CONVERTER
IC801	0ITC786000A	SI786 28SOP TP DUALOUTPUT POWER
IC806	0IMCRFA020A	RC1587DT_36 3P TO252 DPAK R/TP 2.5V
IC812	0IZZVC0067A	M37136EFSP DIP 52P ST ML012B
IC900	0IMCRKE010A	KIA7812AF 2P DPAK R/TP 12V
IC901	0IMCRG2004B	JAGASM A4 SAGE 352BALL
IC902	0IPH806520A	80C652 40 PLCC ST 8BIT MICROCONTROLLERS
IC903	0IPH743730E	74HCT373 D 20SOP R/TP ADDRESS LATCH
IC904	0IZZVC0065A	M27C512_10F1 DIP 32P BK 512K
IC905	0ISS416162C	K4S161622ETC80 50TSOP
IC906	0ISS416162C	K4S161622ETC80 50TSOP
IC907	0IPH740400G	74HC04D 14P,SOP TP .
IC908	0IMCRAL006A	AT24C16AN10SI2.7 8P SOIC R/TP EEPROM
IC909	0IMCRFA020A	RC1587DT_36 3P TO252 DPAK R/TP 2.5V
IC915	0IMMRHY033A	HY57V643220C(L)T6 86P TSOP TRAY 64M
IC941	0IMCRTW002A	TW9908 100P PQFP TRAY VIDEO
IC942	0IMCRFA020A	RC1587DT_36 3P TO252 DPAK R/TP 2.5V
TRANSISTOR		
IC802	0TFVI80001A	VISHAY SI4808DY R/TP SO8 30V 7.5A OLD
IC803	0TFVI80001A	VISHAY SI4808DY R/TP SO8 30V 7.5A OLD
IC804	0TFVI80005A	VISHAY SI4963DY R/TP SO8 20V 6.2A
IC805	0TF492509AA	SI4925DY TP TEMIC 30V 6.1A SO8
IC913	0TF492509AA	SI4925DY TP TEMIC 30V 6.1A SO8
Q102	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q204	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q205	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q206	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q3	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q3000	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q3001	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q3002	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q3003	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q3004	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q3005	0TR387500AA	CHIP 2SC3875S(ALY) KEC

LOCA. NO	PART NO	DESCRIPTION
Q301	0TR150400BA	CHIP 2SA1504S(ASY) KEC
Q302	0TR150400BA	CHIP 2SA1504S(ASY) KEC
Q350	0TR150400BA	CHIP 2SA1504S(ASY) KEC
Q801	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q901	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q902	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q903	0TR387500AA	CHIP 2SC3875S(ALY) KEC
Q904	0TR387500AA	CHIP 2SC3875S(ALY) KEC
DIODE		
D1	0DD181009AB	KDS181 TP KEC 85V 300MA
D2	0DD181009AB	KDS181 TP KEC 85V 300MA
D801	0DD181009AB	KDS181 TP KEC 85V 300MA
D802	0DD100009AM	EU1ZV(1) TP SANKEN
D811	0DD414809ED	1N4148 TP GRANDE
D812	0DD414809ED	1N4148 TP GRANDE
ZD101	0DZ330009BA	ZENERS,ZENER HZT33
ZD3000	0DZRM00178A	ZENERS,UDZS TE17 5.1B
ZD3001	0DZRM00178A	ZENERS,UDZS TE17 5.1B
ZD71	0DZRM00178A	ZENERS,UDZS TE17 5.1B
ZD72	0DZRM00178A	ZENERS,UDZS TE17 5.1B
ZD73	0DZRM00178A	ZENERS,UDZS TE17 5.1B
ZD74	0DZRM00178A	ZENERS,UDZS TE17 5.1B
ZD75	0DZRM00178A	ZENERS,UDZS TE17 5.1B
ZD76	0DZRM00178A	ZENERS,UDZS TE17 5.1B
ZD77	0DZRM00178A	ZENERS,UDZS TE17 5.1B
ZD79	0DZRM00178A	ZENERS,UDZS TE17 5.1B
ZD80	0DZRM00178A	ZENERS,UDZS TE17 5.1B
ZD81	0DZRM00178A	ZENERS,UDZS TE17 5.1B
ZD82	0DZRM00178A	ZENERS,UDZS TE17 5.1B
ZD83	0DZRM00178A	ZENERS,UDZS TE17 5.1B
CAPACITOR		
C101	0CE476DH618	47UF STD 25V 20%
C103	0CE106DK618	10UF STD 50V M
C105	0CE687DD618	680UF STD 10V 20%
C111	0CE105DK618	1UF STD 50V M
C113	0CE107DF618	100UF STD 16V M
C17	0CE107DF618	100UF STD 16V M
C20	0CE107DF618	100UF STD 16V M
C21	0CE106DF618	10UF STD 16V M
C214	0CE476DF618	47UF STD 16V M
C217	0CE476DD618	47UF STD 10V 20%
C220	0CE476DD618	47UF STD 10V 20%
C221	0CE476DD618	47UF STD 10V 20%
C2305	0CE225DK618	2.2UF STD 50V 20%
C24	0CE107DF618	100UF STD 16V M
C25	0CE227DF618	220UF STD 16V M
C309	0CE106DF618	10UF STD 16V M

REPLACEMENT PARTS LIST

LOCA. NO	PART NO	DESCRIPTION	LOCA. NO	PART NO	DESCRIPTION
C31	0CE105DK618	1UF STD 50V M	C682	0CE227DF618	220UF STD 16V M
C318	0CE337DD618	330UF STD 10V M	C683	0CK105DF64A	1UF 2012 16V 20%
C318	0CE107DD618	100UF STD 10V M	C712	0CE107DD618	100UF STD 10V M
C320	0CQ3331N509	0.033U 100V K	C719	0CE107SF6DC	100UF MVG 16V M
C321	0CE106DF618	10UF STD 16V M	C733	0CE107DD618	100UF STD 10V M
C332	0CE107DD618	100UF STD 10V M	C734	0CE107SF6DC	100UF MVG 16V M
C350	0CE227DF618	220UF STD 16V M	C742	0CE107DD618	100UF STD 10V M
C353	0CE476DF618	47UF STD 16V M	C801	0CE476DK618	47UF STD 50V M
C354	0CE336DF618	33UF STD 16V M	C802	0CE477DF618	470UF STD 16V 20%
C360	0CE105DK618	1UF STD 50V M	C803	0CE477DF618	470UF STD 16V 20%
C362	0CE474CK636	0.47UF SHL,SD 50V 20%	C804	0CE477DF618	470UF STD 16V 20%
C363	0CE474CK636	0.47UF SHL,SD 50V 20%	C805	0CE477DF618	470UF STD 16V 20%
C364	0CE474CK636	0.47UF SHL,SD 50V 20%	C806	0CE477DF618	470UF STD 16V 20%
C365	0CE474CK636	0.47UF SHL,SD 50V 20%	C807	0CE477DF618	470UF STD 16V 20%
C390	0CE106SF6DC	10UF MVG 16V 20%	C808	0CE227DH618	220UF STD 25V M
C391	0CE107SF6DC	100UF MVG 16V M	C814	0CE107DH618	100UF STD 25V M
C392	0CE107SF6DC	100UF MVG 16V M	C815	0CE107DH618	100UF STD 25V M
C406	0CE476DF618	47UF STD 16V M	C817	0CE475DK618	4.7UF STD 50V 20%
C418	0CE107SF6DC	100UF MVG 16V M	C825	0CE337DH618	330UF STD 25V M
C493	0CE106DF618	10UF STD 16V M	C826	0CE337DH618	330UF STD 25V M
C494	0CE107DF618	100UF STD 16V M	C836	0CE227DF618	220UF STD 16V M
C495	0CE107DF618	100UF STD 16V M	C837	0CE227DD618	220UF STD 10V M
C527	0CE107DF618	100UF STD 16V M	C902	0CE106SF6DC	10UF MVG 16V 20%
C532	0CE107DF618	100UF STD 16V M	C904	0CE106SF6DC	10UF MVG 16V 20%
C610	0CE107DF618	100UF STD 16V M	C906	0CE107DF618	100UF STD 16V M
C614	0CE107DF618	100UF STD 16V M	C911	0CE107SF6DC	100UF MVG 16V M
C618	0CK224DF56A	220000PF 2012 16V 10%	C915	0CE106SF6DC	10UF MVG 16V 20%
C619	0CK224DF56A	220000PF 2012 16V 10%	C935	0CE107SF6DC	100UF MVG 16V M
C620	0CK224DF56A	220000PF 2012 16V 10%	C953	0CE477DF618	470UF STD 16V 20%
C621	0CK224DF56A	220000PF 2012 16V 10%	C954	0CE477DF618	470UF STD 16V 20%
C622	0CE476DF618	47UF STD 16V M	FUSE & JACK		
C631	0CE106DF618	10UF STD 16V M	F101	0FS6300B84B	FUSE,SLOW BLOW 630MA 250V
C632	0CE106DF618	10UF STD 16V M	F102	0FF2501A25E	FUSE,FAST BLOW 2500MA 125V
C633	0CE335DK618	3.3UF STD 50V 20%	JA2000	6613V00018A	JACK ASSEMBLY,RDWHYLS/VHSE/P(7PIN)
C635	0CE107DF618	100UF STD 16V M	JA201	6612VAH001C	JACK,PHONE DC003 4PIN POWER JACK
C638	0CE107DF618	100UF STD 16V M	JA203	6613V00004P	JACK ASSY,PJ6054P RCA 3P
C639	0CE107DF618	100UF STD 16V M	JA205A	380-336E	JACK,RCA WA6013E 1P
C640	0CK224DF56A	220000PF 2012 16V 10%	JA205B	380-336F	JACK,RCA WA6013E 1P
C641	0CK224DF56A	220000PF 2012 16V 10%	SJ205	6612VJH008D	JACK,RCA PJ6063D DVD IN 3P
C642	0CK224DF56A	220000PF 2012 16V 10%	COIL & TRANSFORMER		
C643	0CK224DF56A	220000PF 2012 16V 10%	L102	0LA0272K139	INDUCTOR,27UH K
C656	0CK105DF64A	1UF 2012 16V 20%	L651	6140VR0005B	COIL,ENERGY RECOVERY SLF7045T330MR82
C658	0CK105DF64A	1UF 2012 16V 20%	L653	6140VR0005B	COIL,ENERGY RECOVERY SLF7045T330MR82
C659	0CK105DF64A	1UF 2012 16V 20%	L655	6140VR0005B	COIL,ENERGY RECOVERY SLF7045T330MR82
C662	0CK105DF64A	1UF 2012 16V 20%	L656	6140VR0005B	COIL,ENERGY RECOVERY SLF7045T330MR82
C669	0CK105DF64A	1UF 2012 16V 20%	L802	6140VB0004B	COIL,CHOKE 26UH
C670	0CK105DF64A	1UF 2012 16V 20%	L803	6140VB0004A	COIL,CHOKE 9.5UH
C672	0CK105DF64A	1UF 2012 16V 20%	T801	6170VTC A30A	TRANSFORMER,SMPS[COIL] EPC 13Z 320UH
C676	0CK224DF56A	220000PF 2012 16V 10%			
C677	0CK224DF56A	220000PF 2012 16V 10%			
C680	0CK224DF56A	220000PF 2012 16V 10%			
C681	0CK224DF56A	220000PF 2012 16V 10%			

REPLACEMENT PARTS LIST

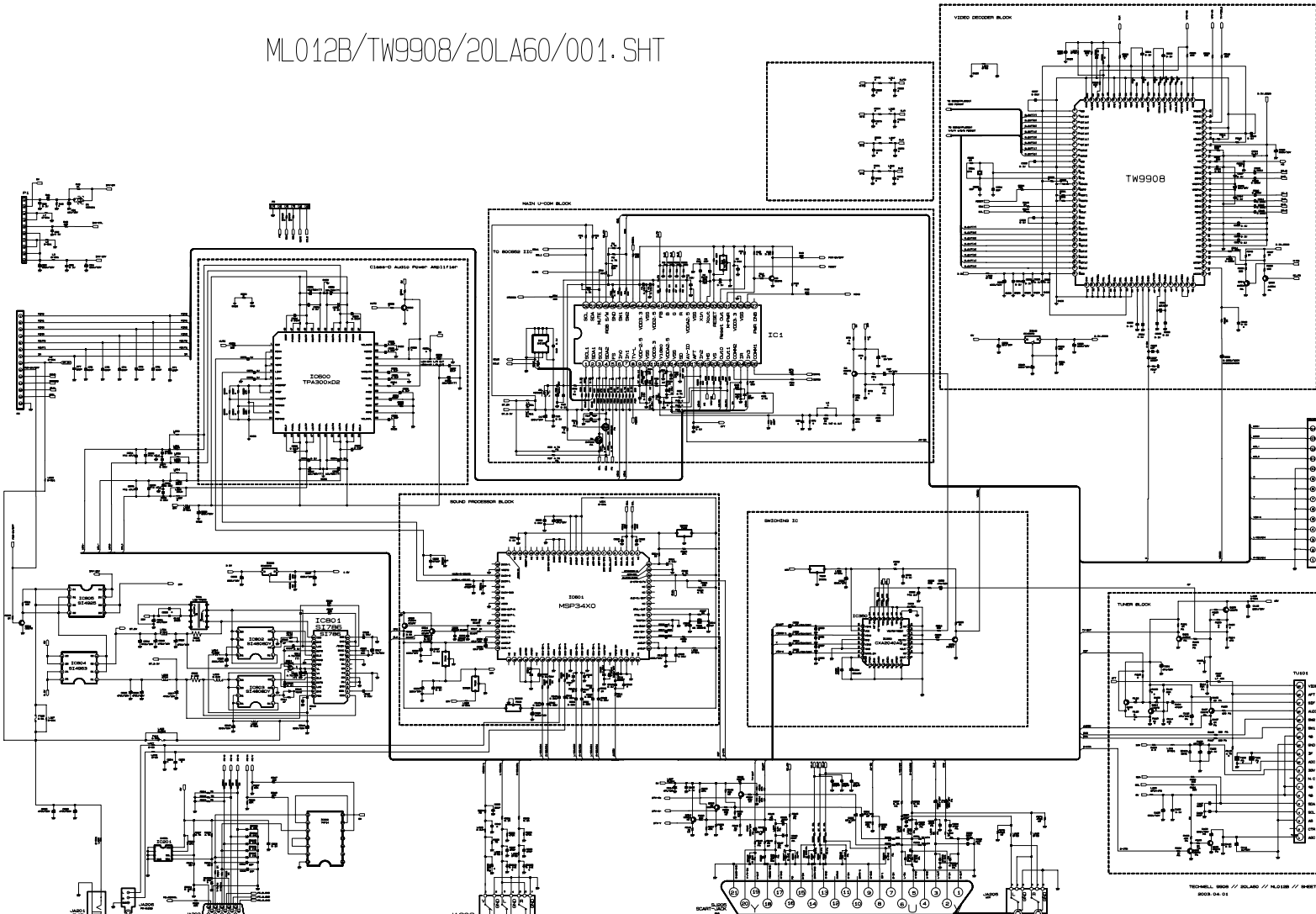
LOCA. NO	PART NO	DESCRIPTION	LOCA. NO	PART NO	DESCRIPTION
RESISTOR					
R2002	0RD1200H609	120 OHM 1/2 W 5.00%	L302	6210TCE001A	FILTER,EMC HB1S2012080JT
R2003	0RD1200H609	120 OHM 1/2 W 5.00%	L350	6210TCE001G	FILTER,EMC HH1M3216501
R803	0RHZVTA001A	0.025 OHM 1W 2%	L601	6210TCE001G	FILTER,EMC HH1M3216501
R805	0RHZVTA001A	0.025 OHM 1W 2%	L602	6210TCE001G	FILTER,EMC HH1M3216501
RA901	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%	L603	6210TCE001G	FILTER,EMC HH1M3216501
RA902	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%	L658	6210TCE001G	FILTER,EMC HH1M3216501
RA903	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%	L7	6210TCE001G	FILTER,EMC HH1M3216501
RA904	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%	L701	6210TCE001G	FILTER,EMC HH1M3216501
RA905	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%	L702	6210TCE001G	FILTER,EMC HH1M3216501
RA906	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%	L703	6210TCE001G	FILTER,EMC HH1M3216501
RA911	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%	L704	6210TCE001G	FILTER,EMC HH1M3216501
RA912	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%	L8	6210TCE001G	FILTER,EMC HH1M3216501
RA926	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%	L801	6210TCE001G	FILTER,EMC HH1M3216501
RA927	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%	L804	6210TCE001G	FILTER,EMC HH1M3216501
RA928	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%	L805	6210TCE001G	FILTER,EMC HH1M3216501
RA929	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%	L806	6210TCE001G	FILTER,EMC HH1M3216501
RA930	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%	L808	6210TCE001G	FILTER,EMC HH1M3216501
RA931	0RRZVTA001A	MNR14E0AJ101 R OHM 100 OHM 5%	L901	6210TCE001G	FILTER,EMC HH1M3216501
SWITCH			L902	6210TCE001G	FILTER,EMC HH1M3216501
SW1101	140-313B	SWITCH,TACT 2LEAD 160G	L904	6210TCE001G	FILTER,EMC HH1M3216501
SW1102	140-313B	SWITCH,TACT 2LEAD 160G	L905	6210TCE001G	FILTER,EMC HH1M3216501
SW1103	140-313B	SWITCH,TACT 2LEAD 160G	L908	6210TCE001G	FILTER,EMC HH1M3216501
SW1104	140-313B	SWITCH,TACT 2LEAD 160G	L911	6210TCE001G	FILTER,EMC HH1M3216501
SW1105	140-313B	SWITCH,TACT 2LEAD 160G	L913	6210TCE001G	FILTER,EMC HH1M3216501
SW1106	140-313B	SWITCH,TACT 2LEAD 160G	L918	6210TCE001G	FILTER,EMC HH1M3216501
SW1107	140-313B	SWITCH,TACT 2LEAD 160G	L922	6210TCE001A	FILTER,EMC HB1S2012080JT
SW1108	140-313B	SWITCH,TACT 2LEAD 160G	L955	6210TCE001G	FILTER,EMC HH1M3216501
FILTER & CRYSTAL			L956	6210TCE001G	FILTER,EMC HH1M3216501
L1	6210TCE001G	FILTER,EMC HH1M3216501	L957	6210TCE001G	FILTER,EMC HH1M3216501
L101	6210TCE001G	FILTER,EMC HH1M3216501	L957	6210TCE001G	FILTER,EMC HH1M3216501
L103	6210TCE001G	FILTER,EMC HH1M3216501	L958	6210TCE001G	FILTER,EMC HH1M3216501
L106	6210TCE001G	FILTER,EMC HH1M3216501	R2004	6200JB8010L	FILTER,EMC MLB2012091000LN2
L107	6210TCE001G	FILTER,EMC HH1M3216501	X1	156-A01P	RESONATOR,CRYSTAL HC49U 8.000MHZ
L205	6210TCE001A	FILTER,EMC HB1S2012080JT	X301	156-A02X	RESONATOR,CRYSTAL HC49U 27.000MHZ
L206	6210TCE001A	FILTER,EMC HB1S2012080JT	X501	6202VDT002J	RESONATOR,CRYSTAL SX1 13.500000MHZ
L207	6210TCE001G	FILTER,EMC HH1M3216501	X601	156-A02M	RESONATOR,CRYSTAL HC49U 18.432MHZ
L2100	6210TCE001A	FILTER,EMC HB1S2012080JT	X901	6202VDT002B	RESONATOR,CRYSTAL SX1 SC14.3MHZ
L2101	6210TCE001A	FILTER,EMC HB1S2012080JT	MISCELLANEOUS		
L2105	6210TCE001A	FILTER,EMC HB1S2012080JT	P1102	6631V20016G	CONNECTOR ASSEMBLY,14P 2.0MM
L2106	6210TCE001A	FILTER,EMC HB1S2012080JT	P2000	6631V20016C	CONNECTOR ASSEMBLY,14P 2.0MM
L2107	6210TCE001A	FILTER,EMC HB1S2012080JT	PA3000	6726VV0006D	REMOTE CONTROLLER RECEIVER,38.0KHZ
L2108	6210TCE001G	FILTER,EMC HH1M3216501	TU101	6700VNF019E	TUNER,TAFHH001P LG NTSC FS
L2109	6210TCE001G	FILTER,EMC HH1M3216501	ACCESSORIES		
L215	6210TCE001A	FILTER,EMC HB1S2012080JT	A1	3828VA0308X	MANUAL,OWNERS RU15/20LA61
L216	6210TCE001A	FILTER,EMC HB1S2012080JT	"	3828VA0308U	MANUAL,OWNERS RU-20LA61.AAPLKZ
L3	6210TCE001G	FILTER,EMC HH1M3216501	A2	6710V00091M	REMOTE CONTROLLER,ML012B
L300	6210TCE001A	FILTER,EMC HB1S2012080JT	"	6710V00126B	REMOTE CONTROLLER RU-20LA61.AAPLKZ
L301	6210TCE001G	FILTER,EMC HH1M3216501	A3	6410VUH003A	POWER CORD,PS204001 UL/CSA 1800MM
			A4	6634B00043J	ADAPTER,ACDC SAD7015SE 15V 4.5A



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